Claims:

1. A method of recovering factor VIII/vWF-complex, characterized in that factor VIII/vWF-complex from a protein solution is bound to a cation exchanger and is recovered by step-wise elution of factor VIII/vWF-complex, which particularly contains high-molecular vWF-multimers.

2. A method according to claim 1, characterized in that factor VIII/vWF-complex is bound to a cation exchanger at a salt concentration of ≤ 250 mM, and factor VIII/vWF-complex containing low-molecular vWF multimers, factor VIII free from platelet agglutinating vWF activity and factor VIII:C is eluted at a salt concentration of between ≥ 250 mM and ≤ 300 mM and recovered.

3. A method according to claim 1 or 2, characterized in that factor VIII/vWF-complex particularly containing high-molecular vWF multimers is recovered by step-wise fractionation at a salt concentration of ≥ 300 mM, preferably ≥ 350 mM.

4. A method according to claim 3, characterized in that a factor VIII/vWF-complex-containing fraction is recovered which particularly is free from low-molecular

vWF multimers and vWF degradation products, non-complexed factor VIII or factor VIII weakly bound to vWF, and contaminating nucleic acids.

5. A method according to any one of claims 1 to 4, characterized in that the elution of the polypeptides from the cation exchanger is effected in a buffer system having a pH ranging between 4.5 and 8.5, preferably ≥ 7.1 and ≤ 8.5.

6. A method according to any one of claims 1 to 5, characterized in that the cation exchanger is a sulfopropyl- or carboxymethyl-group-conjugated carrier.

7. A method according to any one of claims 1 to 6, characterized in that a factor VIII/vWF-complex particularly containing high-molecular vWF multimers is recovered.

8. A method according to any one of claims 1 to 7, characterized in that factor VIII/vWF-complex is recovered from plasma, a plasma fraction, cryoprecipitate, the cell-free supernatant or extract of a recombinant cell culture, or from an enriched protein fraction.

9. A factor VIII/vWF-complex particularly containing

high-molecular vWF multimers, obtainable from a factor VIII/vWF-containing solution by cation exchange chromatography.

10. A factor VIII/vWF-complex according to claim 9, characterized in that it is particularly free from low-molecular vWF multimers, inactive vWF-degradation products and factor VIII free from platelet-agglutinating vWF activity and from factor VIIIa activity.

11. A factor VIII/vWF-complex according to claim 10, characterized in that it has a specific vWF activity of at least 66 U/mg protein and a specific factor VIII activity of at least 500 U/mg protein.

12. Factor VIII:C, substantially free from platelet-agglutinating vWF activity, obtainable from a factor VIII/vWF-containing solution by cation exchange chromatography and step-wise elution at a salt concentration of between ≥ 200 mM and ≤ 300 mM.

13. A preparation containing factor VIII/vWF-complex or factor VIII:C according to any one of claims 11 or 12, characterized in that it is virus-safe and free from infectious material.

14. A preparation according to claim 13, characterized in that it is present in storage-stable form.

15. A preparation according to any one of claims 13 or 14, characterized in that it is formulated as a pharmaceutical preparation.

16. The use of a preparation according to any one of claims 13 to 15 for producing a medicament for the treatment of patients suffering from hemophilia A, phenotypical hemophilia and vWD.

17. A method according to claim 1, characterized in that one starts from plasma or from a plasma fraction and that the factor VIII/vWF-complex is obtained in an at least 300-fold purity and a yield of at least 50%, as compared to plasma.

18. A method of producing a factor VIII/vWF-complex preparation from plasma or from a plasma fraction, characterized in that plasma or a plasma fraction is contacted with a cation exchanger, the factor VIII/vWF-complex being adsorbed thereby, the cation exchanger loaded with factor VIII/vWF-complex optionally is washed, subsequently the factor VIII/vWF-complex is

eluted, an eluate being obtained which has an at least 300-fold purity as regards the factor VIII/vWF-complex and a yield of factor VIII/vWF-complex of at least 50%, based on plasma, and subsequently the obtained eluate is worked up to a factor VIII/vWF-complex-preparation.

19. A method according to claim 17, characterized in that eluting of the factor VIII/vWF-complex from the cation exchanger is carried out such that the obtained eluate contains factor VIII in a yield which amounts to at least 90% of the factor VIII-activity prior to adsorption on the cation exchanger.

20. A method according to claim 18 or 19, characterized in that when working up the factor VIII/vWF-preparation, no further chromatographic purification step is carried out.